

## YOUNG DRIVERS AND PASSENGERS OF MOTOR VEHICLE AND MOTORCYCLE RELATED TRAUMA

This Factsheet summarizes traffic and non-traffic related motor vehicle (MV) and motorcycle (MC) related trauma among young occupants (16 – 20 years of age). The source of the data used in this Factsheet is the Arizona Department of Health Services 2010 Arizona State Trauma Registry.

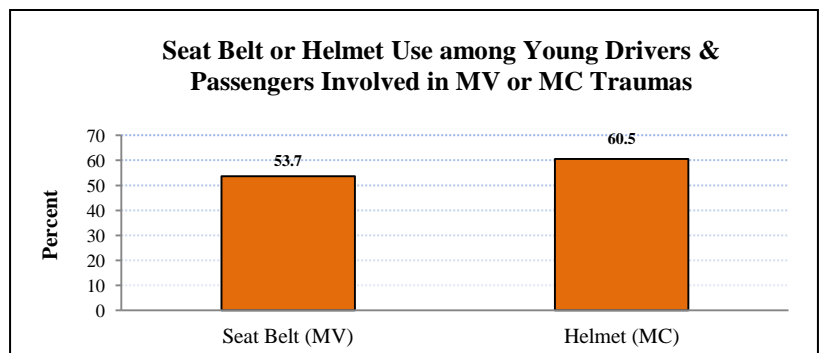
**Table 1: Demographics**

Demographics & Characteristics	Young Traumas (16-20 Years of Age)	
	Frequency	Percent
<b>Occupant</b>		
Motor Vehicle Driver	773	47.6%
Motor Vehicle Passenger	701	43.19%
Motorcycle Driver	138	8.5%
Motorcycle Passenger	11	0.7%
<b>Age</b>		
16	215	13.3%
17	260	16.0%
18	406	25.0%
19	386	23.8%
20	356	21.9%
<b>Race - Ethnicity</b>		
Hispanic	581	36.8%
White Non-Hispanic	802	50.8%
American Indian or Alaska Native	121	7.7%
Black or African American	66	4.2%
Asian Pacific Islander	9	0.6%

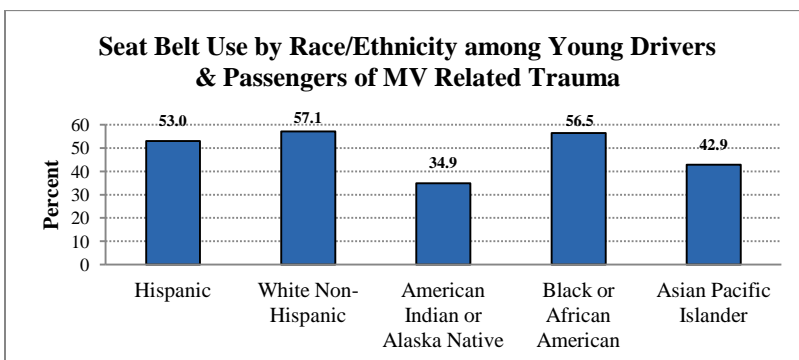
Of all young occupants (ages 16-20 years) involved in a MV and MC related trauma, the majority are MV drivers, followed by MV passengers. A quarter of the young occupants involved in MV/MC related trauma were 18 years of age. White non-Hispanics had the highest percentage of trauma injuries (50.8%), followed by Hispanics (36.8%).

**Graph 1: Seat Belt or Helmet Use among Young Drivers & Passengers Involved in MV or MC Traumas**

Graph 1 shows the percent of young drivers or passengers using either a seatbelt when involved in a MV related trauma, or a helmet when involved in a MC related trauma. Slightly more than half of the young occupants were using seat belts when involved in MV related trauma. Helmets were used by about 60.5% of the young drivers and passengers involved in MC related trauma.



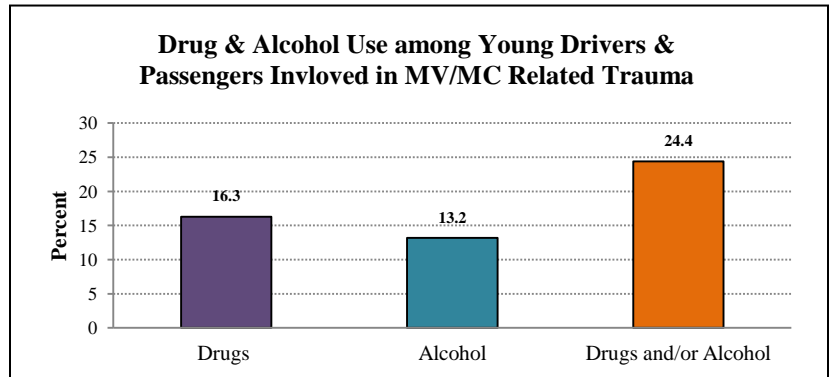
**Graph 2: Seat Belt Use by Race/Ethnicity among Young Drivers & Passengers of MV Related Trauma**



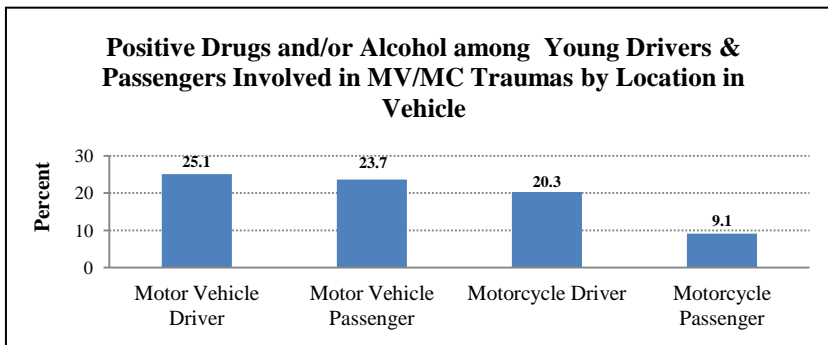
Graph 2 shows the percent of young drivers or passengers using a seat belt when involved in a MV trauma by their race and ethnicity. The highest use was observed among White Non-Hispanics (57.1%), and the lowest in American Indian or Alaska Natives (34.9 %). Seat belt use among White Non-Hispanics, Hispanics, and Black/African Americans was similar in rate. (Helmet use by race/ethnicity among MC occupants is not shown due to fewer than 25 cases in some of the race/ethnicity categories.) \* The Asian Pacific Islander (frequency = 7) group in the above graph contains fewer than 25 persons and statistics provided should be viewed with caution.

### Graph 3: Drug & Alcohol Use among Young Drivers & Passengers Involved in MV/MC Related Trauma

Graph 3 shows the percent of young MV or MC drivers or passengers with trauma injuries who were confirmed or suspected to be positive for drugs and/or alcohol. One in every four young occupants involved in MV/MC related trauma was positive for either drugs and/or alcohol. Sixteen percent (16%) of young MV or MC related trauma patients were positive for only drugs, while 13.2% were positive for only alcohol. (The patients analyzed in this report were 16 – 20 years old, and thus none of them were of legal drinking age at the time of the MV or MC crash). \* Drug use includes legal use of legal drugs and illegal use of legal and illegal drugs.



### Graph 4: Positive Drugs and/or Alcohol among Young Drivers & Passengers Involved in MV/MC Traumas by Location in Vehicle

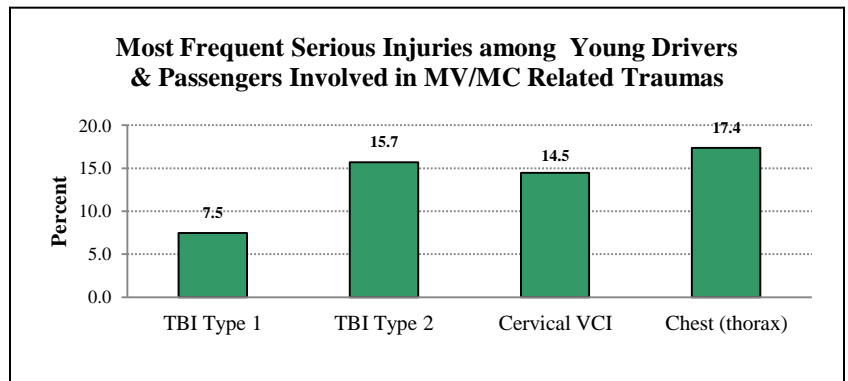


Graph 4 shows the percent of young MV or MC related trauma patients who were confirmed or suspected to be positive for drugs and/or alcohol with information on their location in the vehicle at the time of injury. The group with the highest percentage of suspected or confirmed positives is motor vehicle driver (25.1%), followed by motor vehicle passenger (23.7%). \* The Motorcycle Passenger (frequency = 11) group in the above graph contains fewer than 25 persons and statistics provided should be viewed with caution. All young drivers and passengers analyzed were 16 – 20 years old, and so would not be of legal drinking age. Drug use includes legal use of legal drugs and illegal use of legal and illegal drugs.

### Graph 5: Most Frequent Serious Injuries among Young Drivers & Passengers Involved in MV/MC Related Traumas

Graph 5 shows the four most frequent serious traumatic injuries for young MV/MC drivers and passengers. The most common serious injury is to the Chest (thorax) (17.4%), followed by Traumatic Brain Injury (TBI) Type 2 (15.7%), and then Cervical Vertebral Column Injury (VCI) (14.5%).

\* TBI Type I: “Injuries with a recorded evidence of an intracranial injury or a moderate or prolonged loss of consciousness (LOC)”. TBI Type II: “Injuries with no recorded evidence of intracranial injury and LOC of less than one hour; LOC of unknown duration or unspecified level of consciousness”. Patients may sustain more than one of these injuries, and would then be counted in more than one injury



**Table 2: Financial Characteristics of Young Drivers & Passengers Involved in MV/MC Related Traumas**

Financial Characteristics Young Traumas (16-20 Yrs)	All Discharges	Discharged Home	Not Discharged Home
<b>Motor Vehicle Drivers &amp; Passengers</b>			
Total Hospital Charges	\$53,900,098	\$34,142,188	\$19,757,910
Median Hospital Charges	\$17,585	\$16,954	\$90,569
<b>Motorcycle Drivers &amp; Passengers</b>			
Total Hospital Charges	\$9,079,676	\$4,994,428	\$4,085,249
Median Hospital Charges	\$28,654	\$24,057	\$126,657

Overall, MC related trauma had higher median hospital charges (\$28,654) than MV related trauma (\$17,585) in young drivers/passengers. Median charges among those discharged home due to MV trauma were \$16,954, but were \$90,569 among those who died or were discharged to other services. Similarly, median charges among youth involved in MC related trauma discharged home were \$24,057, but were \$126,657 among those who died or were discharged to places other than home.

#### ADDITIONAL RESOURCES:

Governor’s Office of Highway Safety (<http://www.azgohs.gov/>)

Arizona Motor Vehicle Crash Facts 2010 (<http://www.azdot.gov/mvd/Statistics/crash/PDF/10crashfacts.pdf>)

Arizona Department of Health Services (<http://www.azdhs.gov/index.htm>)

Bureau of Emergency Medical Services and Trauma System (<http://www.azdhs.gov/bems/index.htm>)